REMARKS

Claims 15 and 17-35 are amended. No new claims are added. Claim 16 is cancelled without prejudice. Applicant expressly reserves the right to pursue the cancelled claim in one or more continuation or divisional applications. Support for the amendments to the claims can be found at least at paragraphs 0024-0033 and paragraphs 0066-0067 of the Specification as originally filed. No new matter has been introduced through the amendments to the claims.

Claims 1-15 and 17-35 are pending for consideration. In view of the following amendments and remarks, Applicant respectfully requests that this application be allowed and forwarded on to issuance.

Examiner Interview

Applicant respectfully thanks the Examiner for the time spent discussing the disposition of this case on April 23, 2007 with Applicant's representative via telephone. During the discussion, Applicant's representative and the Examiner discussed the cited art and some claim modifications that would potentially receive favorable treatment by the Examiner. Applicant respectfully thanks the Examiner for the cooperative tone of the interview and the suggestions made by the Examiner in regard to the § 101 rejections discussed hereinafter. However, no final agreement was reached during the telephone interview.

While Applicant believes that such modifications are unnecessary, in the spirit of advancing prosecution of this matter, Applicant has made the clarifying amendments listed above and discussed below.

§ 101 Rejections

Claims 25-34 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter (page 2 of Office action). Specifically, the Office asserts that claim 25 defines a "computer readable medium having one or more instructions causing one or more processors to:…". However, the Office asserts that claim 25 does not define a computer-readable medium or memory and is thus non-statutory.

Claim 25 has been amended to recite, among other things, "A computer-readable storage medium encoded with one or more instructions, the one more instructions configured to cause one or more processors to…". The amendment to claim 25 was made pursuant to the suggestions made by the Examiner during the telephonic interview cited above. In turn, claims 26-34, which depend from claim 25 (as amended), have been respectively amended to reflect the amendment to claim 25.

Applicant asserts that the amendments to claims 25-34 fully address and resolve the § 101 rejection there against, and respectfully requests that the § 101 rejection be withdrawn.

§ 102 Rejections

Claims 1-35 stand rejected under 35 U.S.C. § 102(b) as being anticipated by "Development of Integer Cosine Transforms by the Principle of Dyadic Symmetry", IEE Proceedings, Vol. 136, Pt. 1., No. 4, pgs. 276-282" ("Cham").

As claim 16 has been cancelled as indicated above, the §102 rejection of that claim is now moot.

The Claims

Claim 1 recites a method comprising

- ***approximating at least one non-power-of-2 element of a matrix as a power-of-2 element such that all elements of a resultant matrix are power-of-2 elements***; and
- encoding video data using the resultant matrix.

Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Cham fails to provide <u>approximating at least one non-power-of-2 element of a matrix as a power-of-2 element such that all elements of a resultant matrix are power-of-2 elements</u>, as recited by the subject matter of claim 1. In particular, Cham fails to provide or suggest any matrix wherein <u>**all**</u> elements are <u>**power-of-2**</u> elements.

The pending application describes what is meant by "power-of-2" elements. The text of paragraph 0031 is reproduced below for convenience in this regard:

> On the other hand, for matrix T_2 having **power-of-2** coefficients that are as close as possible to those of DCT, the floating point values of coefficients $a, b, c, d, e,$ and f are: $a = b = 2, c = 1, d = \frac{1}{4}, e = 2, f = 1$.
> (*Para. 0031 of Specification. Emphasis added.*)

Further reference is directed to paragraph 0033 of the Specification, wherein an exemplary matrix consisting of all power-of-2 elements is provided.

A careful inspection of the pending application, as originally filed, will reveal that all power-of-2 elements can be defined as: $\pm 2^X$, wherein X is an integer in all cases. For example: $1 = 2^0$; $2 = 2^1$; $\frac{1}{2} = 2^{-1}$; $-\frac{1}{4} = -2^{-2}$; etc. While any particular power-of-2 value may be further defined as a floating point and/or non-

integer value, each and every power-of-2 value corresponds to an *integer exponent* (e.g., -3, -2, -1, 0, 1, 2, 3, etc.).

In contrast, Cham is directed to various transform matrices used in the compression of image data (Introduction of Cham). Cham also describes that all elements of such a matrix are either defined by ±1, ±*a*, ±*b*, ±*c*, ±*d*, ±*e*, or ±*f*. (pages 277-278 of Cham). However, in **all** exemplary matrices under Cham, *e* = 3. Furthermore, in all exemplary matrices under Cham, at least one of *a*, *b*, *c* or *d* is an odd value (e.g., 3, 5, 7, 9, 15, 201, 153, 185, etc.). Please refer to Table 7 on page 280 of Cham.

It is not possible raise 2 (or -2) to any integer power in order arrive at an odd value. For example, there is **no** integer value of X to satisfy the following equation: $2^X = 3$. Thus, Cham is not directed to any matrix wherein all elements are power-of-2 elements.

For at least the foregoing reasons, the § 102 rejection of claim 1 is unsupportable and should be withdrawn. Applicant further asserts that claim 1 is allowable.

Claims 2-14 are allowable at least as depending from an allowable base claim. While the respective rejections against claims 2-14 have been fully considered, they are not seen as contributing anything of merit.

Claim 15 has been amended and, as amended, recites an image data encoding apparatus, comprising:

- a transformer to perform a 2-power transform on an incoming array of pixels, *the transformer to perform the 2-power transform using a symmetrical matrix in which all elements are expressed as power-of-2 elements*;
- a quantizer to quantize the transformer result; and

- an inverse transformer to perform an inverse 2-power transform on the quantizer result.

Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Cham fails to provide <u>the transformer to perform the 2-power transform using a symmetrical matrix in which all elements are expressed as power-of-2 elements</u>, as recited by the subject matter of claim 15, as amended. As argued above in regard to claim 1, Cham fails to provide or suggest any matrix wherein **all** elements are expressed as **power-of-2** elements.

For at least the foregoing reasons, the § 102 rejection of claim 15, as amended, is unsupportable and should be withdrawn. Applicant further asserts that claim 15 (as amended) is allowable.

Claims 17-24, as respectively amended, are allowable at least as depending from an allowable base claim. While the respective rejections against claims 17-24 (as amended) have been fully considered, they are not seen as contributing anything of merit.

Claim 25 has been amended and, as amended, recites a computer-readable storage medium encoded with one or more instructions, the one more instructions configured to cause one or more processors to:

- ***create a matrix such that all elements in the matrix are expressed as power-of-2 coefficients***; and
- encode video data using the resultant matrix.

Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Cham fails to provide <u>create a matrix such that all elements in the matrix are expressed as power-of-2 coefficients</u>, as recited by the subject matter of claim 25, as amended. Again, Cham fails to provide or suggest any

matrix wherein **all** elements are expressed as **power-of-2** coefficients.

For at least the foregoing reasons, the § 102 rejection of claim 25, as amended, is unsupportable and should be withdrawn. Applicant further asserts that claim 25 (as amended) is allowable.

Claims 26-34, as respectively amended, are allowable at least as depending from an allowable base claim. While the respective rejections against claims 26-34 (as amended) have been fully considered, they are not seen as contributing anything of merit.

Claim 35 has been amended and, as amended, recites an image data encoding apparatus, comprising:

- ***means for performing a 2-power transform on an incoming array of pixels, wherein all elements of the 2-power transform are equal to power-of-2 elements***;
- means for quantizing the transformer result; and
- means for performing an inverse 2-power transform on the quantizer result.

Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Cham fails to provide <u>means for performing a 2-power transform on an incoming array of pixels, wherein all elements of the 2-power transform are equal to power-of-2 elements</u>, as recited by the subject matter of claim 35, as amended. Applicant asserts reasons analogous to those argued above in regard to claim 1.

For at least the foregoing reasons, the § 102 rejection of claim 35, as amended, is unsupportable and should be withdrawn. Applicant further asserts that claim 35 (as amended) is allowable.

Conclusion

The claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully submitted,

Dated: _May-29-2007_   By: _Scott K. Gallert_

Scott K. Gallert
Reg. No. 51,715
Lee & Hayes, PLLC
(509) 324-9256